Michael O. Leavitt
Governor
Ted Stewart
Executive Director
James W. Carter
Division Director

State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING
1594 West North Temple, Suite 1210
Box 145801
Salt Lake City, Utah 84114-5801
(801) 538-5291
801-359-3940 (Fax)
801-538-5319 (TDD)

September 17, 1996

Mark Hardman
Larson Limestone Company
3280 North Frontage Road
P.O. Box 366
Lehi, Utah 84043

Re: Review of Notice of Intention to Commence Large Mining Operations, Larson Limestone Company (Larson), Pelican Point Quarry Mine, M/049/011, Utah County, Utah

Dear Mr. Hardman:

The Division has completed a review of your Notice of Intention to Commence Large Mining Operations (NOI-LMO) for the Pelican Point Quarry mine, located in Utah County, Utah, which was received August 2,1996. After reviewing the information, the Division has the following comments which will need to be addressed before tentative approval may be granted. The comments are listed below under the applicable Minerals Rule heading. Please format your response in a similar fashion.

R647-4-105 - Maps, Drawings & Photographs

105.1 Topographic base map, boundaries, pre-act disturbance
Please revise Drawing R647-4 (A) to show the extent of mining operations which occurred pre-act (prior to July 1, 1977). Please identify areas which were impacted prior to 1977 which have not been utilized since that date; and identify areas that have been utilized by this operation since July 1, 1977. (LK)

Please provide another version of Drawing R647-4 (A) which includes an overlay of the land ownership shown in Drawing R647-4 (B) in addition to the mine features shown in (A). (AAG)

105.2 Surface facilities map
This map needs to show the extent of current disturbance as well as the projected disturbance for at least the next five-year period. Please include a disturbed area boundary on the surface facilities map showing the projected five year disturbance. (LK)

105.3 Drawings or Cross Sections (slopes, roads, pads, etc.)
Please provide typical cross sections of all pads, roads, dumps etc. (LK)

Please provide a cross sectional drawing of the typical quarry bench design used during mining operations and after reclamation (for the five to ten year mine plan). (AAG)

Please provide a reclamation treatments map similar to the surface facilities map which identifies the reclamation treatments to be applied to the various areas using cross hatching or color coding. This map should be the basis for the reclamation cost estimate requested under the Surety section of the rules. (AAG)

R647-4-106 - Operation Plan

106.2 Type of operations conducted, mining method, processing etc.
Please describe the typical blasting practice to be used in this operation, i.e. frequency of blasting, description of typical blast rounds, depth of holes, size of blast area, blasting agents, etc. (AAG)

106.3 Estimated acreages disturbed, reclaimed, annually?
Please provide an estimate of the acreage to be disturbed on an annual basis for a minimum of the next five years of mine life (ten years maximum). (AAG)

106.5 Existing soil types, location, amount
While the NOI contains generals soil survey information and a soils map, it does not indicate the volumes of soil materials that have been salvaged in the past or the projected volume of soil materials that could be salvaged in the future. Please provide an estimate of the volume of salvageable soil material for the next five to ten years of mining. (LK)

106.6 Plan for protecting & redepositing soils
The NOI does not discuss how soil materials are protected (stockpiled) or how they will be redeposited, or to what depth they will be redeposited. Please describe the measures to be taken to protect the topsoil while it remains in the stockpiles. These measures could include signs, berms, interim seeding, etc. Please provide an estimate of the depth of cover of redeposited topsoil over the disturbed area. (LK)

R647-4-107 - Operation Practices

Please describe the specific measures or practices which will be utilized at this site during operations to comply with the Operations Practices section of the rules. You do not need to describe measures to be taken for a feature which is nonexistent at this mine site. For example, the closing or guarding of shafts. (AAG)

107.4 Deleterious material safely stored or removed
Page 11 of the submission states that waste lubricating and hydraulic oils will be burned to produce heat, and waste oils will be stored in above ground steel containers in the maintenance shop. Has a permit for burning waste products been obtained from the appropriate Division of the Department of Environmental Quality? Is the storage area for

waste products in the maintenance shop designed to contain the entire volume of materials stored there in the event of a spill? Are waste oils removed from the site by a commercially licensed agent? (AAG)

107.5 Suitable soils removed & stored
The NOI does not contain specific data regarding the suitability of soils for ultimate reclamation. Attached is a list of soil parameters that should be used for soil analysis. One sample from each soils series that has been, or will be disturbed needs to be analyzed for these parameters. (LK)

R647-4-109 - Impact Assessment

109.1 Impacts to surface & groundwater systems
The application discusses mining the entire portion of Section 31 over a thirty year period. As such, the operator does not feel that a reclamation plan can be anything but conceptual at this point in time. It is our opinion that an attempt to put together a conceptual plan addressing a shorter time frame is necessary. Using five or ten year increments would help define the limits of the operation over shorter periods of time. Open ended statements like "if drainages are to be affected then they will be reclaimed in a stable manner" are fine, but lack the specifics that the Division can review in regard to actual channel designs or location. The existing topography defines the drainages in the immediate area. The mine development plan must identify which drainages will ultimately be affected, how those drainages will be impacted and what mitigation, if any, is necessary. (TM)

109.3 Impacts on existing soils resources
See comments under R647-4-106.5 & 106.7 and 107.5. (LK)

109.4 Slope stability, erosion control, air quality, safety
Does the operation currently manage surface water runoff through ditches or ponds to prevent erosion and off site transport of sediments?. Please provide a description of how storm water is routed. Unless exempted by rule, Larson will need to contact the State Division of Water Quality to obtain the necessary Storm Water and Groundwater Discharge permits. (TM)

Please describe the impacts this operation will have on the stability of slopes and highwalls within and adjacent to the mine site for the next five to ten years. Please describe the impacts these slopes and highwalls will have on public safety and describe any actions taken or proposed to mitigate these impacts. (AAG)

R647-4-110 - Reclamation Plan

110.2 Roads, highwalls, slopes, drainages, pits, etc., reclaimed
Drainage reclamation plans are addressed in a very generic nature. The plans need to be more specific regarding what will exist in five years or ten years. (TM)

Please describe specifically how roads, highwalls, slopes, pads and similar structures will be reclaimed. For example, provide details *such as* "The main haul road will be regraded and ripped to a minimum depth of 12 inches using a dozer, then topsoil will be replaced to a depth of 6 inches followed by drill seeding." Please describe the highwall angle and slope configuration which will remain after final reclamation. Since the long term mine plan is to completely remove the hillside negating the need for reclamation of these features, please describe reclamation of these features at the end of the next five to ten years. (AAG)

110.3 Description of facilities to be left (post mining use)
The NOI does not discuss what, if any facilities will be left to facilitate the post mining land use. As such, it is assumed that all facilities will be removed and reclaimed. This includes all buildings, structures, pads, roads, etc. Please verify this assumption or provide other information describing the features proposed to remain. Please note that a variance request is required for features which are proposed to remain unreclaimed. (LK)

110.5 Revegetation planting program
While the NOI does contain an acceptable revegetation seed mix, it is uncertain as to how seeding will be performed or the time of year that seeding is anticipated. These items need to be addressed. The Division recommends that seeding take place in late fall. (LK)

R647-4-111 - Reclamation Practices

111.1 Public safety & welfare
Please describe the specific measures or practices which will be utilized at this site during reclamation to enhance public safety and minimize hazards. For example, will trash and debris be removed from the site to a commercial landfill? By whom? You do not need to describe measures to be taken for a feature which is nonexistent at this mine site. For example, the permanent sealing of shafts. (AAG)

111.2 Reclamation of natural channels
Please provide the necessary information to describe how surface water is (or will be) routed through the surface facilities and other disturbances over both the short and long term. The plan lacks any specific details in this regard. The Division agrees with the assessment that the mine will be active for many years into the future, but the application still needs some detail regarding the (disposition) of surface water drainage at various increments of time. (TM)

111.3 Erosion & sediment control
The plan is very generic regarding language describing sediment control and erosion control. Please describe how storm water will be routed and/or contained to prevent off site sediment deposition related to mining operations. Please describe the specific measures to be taken at different locations on the site for erosion and sediment control. (TM)

111.6 All slopes regraded to stable configuration
The submission states that all slopes will be regraded to a stable configuration. Please describe what this configuration will be (angle, slope length) for the various slopes of waste piles, etc. (AAG)

111.7 Highwalls stabilized to 45 degrees or less
Please describe the highwall configuration after final reclamation according to a five to ten year mine plan. (AAG)

111.8 All roads & pads reclaimed
Please describe which roads and pads will be reclaimed and which of these features are proposed to remain. Please identify these features on the reclamation treatments map requested under section R647-4-105.3. (AAG)

111.9 Dams & impoundments left self draining & stable
A statement is made that all dams and impoundments will be self draining and mechanically stable unless shown to have sound hydrologic design and to be beneficial to the postmining land use. Please describe where those structures are (or would be) located. (TM)

111.11 Structures & equipment buried or removed
Please describe specifically which structures and equipment are proposed to be buried onsite and which items will be removed. This practice is generally acceptable to the Division provided the materials are inert and are buried under a minimum of three feet of cover. (AAG)

111.12 Topsoil redistribution
The NOI does not contain specific information regarding the redistribution of topsoil. How will this be accomplished? At what thickness will the topsoil be replaced? (LK)

R647-4-112 - Variance

The submission did not contain any variance requests We are assuming that none are necessary. (AAG)

R647-4-113 - Surety

The submission did not contain a reclamation surety estimate. The Division cannot prepare a reclamation cost estimate based on the information provided. Additional details are needed describing the reclamation treatments and areas to be reclaimed. Please provide an estimate of the reclamation costs in your response. (AAG)

R647-4-115 - Confidential Information

No information in this submission was identified as confidential. (AAG)

The Division will suspend further review of your large mine permit application until your response to this letter is received. If you have any questions regarding this review, please contact me, Tony Gallegos, Lynn Kunzler, or Tom Munson of the Minerals Staff. If you wish to arrange a meeting to sit down and discuss this review, please contact us at your earliest convenience to schedule a date, place and time. We have tentatively scheduled October 1, 1996, for an onsite inspection of the mine property. If you have any questions regarding this review, perhaps they could be addressed at the time of the inspection. Thank you for your cooperation in completing this permitting action.

Sincerely,

D. Wayne Hedberg
Permit Supervisor
Minerals Reclamation Program

jb
Attachment: Baseline soils & overburden analyses
cc: Buck Rose, Utah County Planning & Zoning
m049011.rev

Division of Oil, Gas and Mining
Minerals Program

Baseline Soils and Overburden
Recommended Laboratory Analyses
for each soil type to be disturbed

1. Texture
2. pH
3. EC (conductivity)
4. SAR
5. Saturation Percentage
6. Percent Organic Matter
7. CEC (cation exchange capacity)
8. $CaC0_3$
9. Alkalinity
10. Total nitrogen
11. Nitrate nitrogen
12. Phosphorus (as P_2O_5)
13. Potassium (as K_2O)

Provide an estimated volume of soil material that can be salvaged and used later for reclamation (please note, even an inch or two of topsoil can greatly improve reclamation success)!